

## CLAIMS

What is claimed is:

1. A method, comprising:  
  
determining an area of weakness in a ball grid array (BGA) package having an array of solder balls; and  
  
applying a bonder to the area of weakness in the BGA package, wherein the bonder is applied independently of the array of solder balls.
2. The method of claim 1, wherein the BGA package comprises:  
  
an integrated circuit (IC) device;  
  
a first surface coupled with the IC device;  
  
a printed circuit board (PCB) having a second surface, the second surface aligned with the first surface using the array of solder balls, wherein the array of solder balls placed in between the first surface and the second surface; and  
  
solder joints to attach the array of solder balls with the first surface and the second surface.
3. The method of claim 1, wherein the applying of the bonder comprises applying the bonder between the first surface and the second surface to provide resistance to the BGA package against warpage.
4. The method of claim 3, wherein the warpage comprises at least one of the following:  
  
opening, cracking, curving, bending, and breaking of the second surface.
5. The method of claim 1, wherein the area of weakness comprises at least one of the following: edges, corners, and perimeter of the BGA package.
6. The method of claim 1, wherein the applying of the bonder comprises applying the bonder using a bonder dispenser.

7. The method of claim 1, wherein the bonder comprises at least one of the following: a thermoplastic bonder and a silicon bonder.
8. The method of claim 1, wherein the applying of the bonder comprises applying the thermoplastic bonder using a hot melting jig or a dispenser, the hot melting jig and the dispenser comprise at least one of the following: a Asymtek Dispenser System, a hot melt hand applicator, an ITW Dynamelt, and an adhesive unit.
9. The method of claim 1, wherein the applying of the bonder comprises applying the silicon bonder using an epoxy dispenser machine.
10. The method of claim 1, wherein the independent application of the bonder is performed using software to control placement distance of the bonder with respect to the array of solder balls.
11. A method, comprising:  
determining an area of weakness in a ball grid array (BGA) package; and  
applying a thermoplastic bonder to the area of weakness between a first surface and a second surface in the BGA package.
12. The method of claim 11, further comprising:  
printing solder paste to create a BGA package;  
placing surface mount technology (SMT) on the BGA package using the solder paste;  
solder reflowing;  
solder waving; and  
processing backend.
13. The method of claim 11, wherein the applying comprises applying the thermoplastic bonder after solder waving.

14. The method of claim 11, wherein the thermoplastic bonder is applied using a hot melting jig or a dispenser, the hot melting jig and the dispenser comprise at least one of the following: a Asymtek Dispenser System, a hot melt hand applicator, an ITW Dynamelt, and an adhesive unit.
15. A method, comprising:
  - determining an area of weakness in a ball grid array (BGA) package; and
  - applying a silicon bonder to the area of weakness between a first surface and a second surface in the BGA package.
16. The method of claim 15, further comprising:
  - printing solder paste to create a BGA package;
  - placing surface mount technology (SMT) on the BGA package using the solder paste;
  - solder reflowing;
  - solder waving; and
  - processing backend.
17. The method of claim 15, wherein the applying comprises applying the silicon bonder prior to solder reflowing.
18. The method of claim 15, wherein the silicon bonder is applied using an epoxy dispenser machine with silicon volume.
19. An apparatus, comprising:
  - a ball grid array (BGA) package having a first surface, a second surface and an array of solder balls to align the first surface with the second surface, the first surface coupled with an integrated circuit (IC) device and the second surface coupled with a printed circuit board (PCB); and

a bonder applied between the first surface and the second surface independently of the array of solder balls.

20. The apparatus of claim 19, further comprising solder joints to attach the array of solder balls with the first surface and the second surface.
21. The apparatus of claim 19, wherein the bonder comprises a thermoplastic bonder, the thermoplastic bonder is applied using a hot melting jig or a dispenser, the hot melting jig and the dispenser comprise at least one of the following: a Asymtek Dispenser System, a hot melt hand applicator, an ITW Dynamelt, and an adhesive unit.
22. The apparatus of claim 19, wherein the bonder comprises a silicon bonder, the silicon bonder is applied using an epoxy dispenser machine with silicon volume.
23. The apparatus of claim 19, wherein the bonder is applied independently of the array of solder balls using software to control placement distance of the bonder with respect to the array of solder balls.
24. The apparatus of claim 19, wherein the IC device comprises at least one of the following: a microprocessor, a microcontroller, a graphics processor, a digital signal processor (DSP), a complex instruction set computing (CISC) processor, a reduced instruction set computing (RISC) processor, and a very long instruction word (VLIW) processor.
25. The apparatus of claim 19, further comprising at least one of the following: a personal computer, a mainframe computer, a handheld device, a portable computer, a set-top box, an intelligent appliance, a workstation, and a server.
26. A system, comprising:
  - a storage medium;
  - a bus coupled with the storage medium;

a ball grid array (BGA) package coupled with the bus, the BGA package having a first surface and a second surface and an array of solder balls to align the first surface with the second surface, the first surface coupled with an integrated circuit (IC) device and the second surface coupled with a printed circuit board (PCB); and a bonder applied between the first surface and the second surface independently of the array of solder balls.

27. The system of claim 26, wherein the bonder comprises a thermoplastic bonder applied using a hot melting jig or a dispenser, the hot melting jig and the dispenser comprise at least one of the following: a Asymtek Dispenser System, a hot melt hand applicator, an ITW Dynamelt, and an adhesive unit.
28. The system of claim 26, wherein the bonder comprises a silicon bonder applied using an epoxy dispenser machine with silicon volume.
29. The system of claim 26, wherein the bonder is applied independently of the array of solder balls using software to control placement distance of the bonder with respect to the array of solder balls.